CLAIMS:

1. A method of segmenting a three-dimensional structure, which is contained in an object, from at least one two-dimensional image (I_1, I_2) which represents a slice of the object, which method utilizes a deformable model (M) whose surface is formed by a network of meshes which interconnect network points on the surface of the model, and which method includes the steps of:

a) determining the meshes (T_3, T_4) which intersect the image (I_1, I_2),

b) searching, for each mesh determined in the step a), a respective structure point (x_{is}), situated on the surface of the structure, along a search line (n_i) which traverses the mesh and extends in the image,

c) calculating a new the network points (x_{im}) of the model (M) on the basis of the structure points (x_{is}) found, and

d) repeating the steps a) to c) a number of times on the basis of the newly calculated network points.

2. A method as claimed in claim 1, in which the direction of the search line (n_i) corresponds to the projection of a line perpendicular to the mesh onto the plane of the image.

3. A method as claimed in claim 1, in which the search for a structure point is limited to a zone of the search line which is symmetrically situated relative to the line of intersection (h) of the mesh and the plane of the image.

4. A method as claimed in claim 1, in which the search lines extend through the centers of the lines of intersection of the meshes and the plane of the image.

5. An image processing device which includes

- a memory for storing a deformable model whose surface is formed by a network of meshes which interconnect network points on the surface of the model, and for storing at least one two-dimensional image which represents a slice of an object,
- an image display unit for displaying a segmented structure, and

- image processing means for segmenting a three-dimensional structure which is contained in the object, which segmentation operation is performed as follows:

a) determining the meshes which intersect the image,

b) searching, for each mesh determined in the step a), a respective structure point, situated on the surface of the structure, along a search line which traverses the mesh and extends in the image,

c) recalculating the network points of the model on the basis of the structure points found, and

d) repeating the steps a) to c) a number of times on the basis of the newly calculated network points.

6. A computer program for an image processing unit as claimed in claim 5 for segmenting a three-dimensional structure, which is contained in an object, from at least one two-dimensional image which represents a slice of the object, which computer program utilizes a deformable model whose surface is formed by a network of meshes which interconnect network points on the surface of the model, and which computer program includes the steps of:

a) determining the meshes which intersect the image,

b) searching, for each mesh determined in the step a), a respective structure point, situated on the surface of the structure, along a search line which traverses the mesh and extends in the image,

c) calculating anew the network points of the model on the basis of the structure points found, and

d) repeating the steps a) to c) a number times on the basis of the newly calculated network points.